

WHAT IS CLAIMED IS:

1. A method for generating a preview of a print pattern on a conical platen surface, an image of the print pattern being captured in a scan made up of a series of radial scan line images along an arcuate path, comprising:

for each group of radial scan line images, the steps of:

determining a representative sensor pixel value for pixels in a group of captured radial scan line images;

converting a polar coordinate position of the respective group of captured radial scan line images to a position in display window coordinates;

plotting the representative sensor pixel values determined in said determining step at corresponding display window coordinates; and

displaying the plot of the representative sensor pixel values in a display window as a preview of the captured print pattern image.

2. The method of claim 1 wherein determining a representative sensor pixel value includes determining an average sensor pixel value for pixels in the group of captured radial scan lines.

3. The method of claim 1 wherein the group of radial scan line images consists of approximately 25 radial scan lines.

4. The method of claim 1 further comprising the steps of:

receiving a request for a high resolution display of a selected area of the preview of the print pattern; and

converting the captured polar coordinate system image data contained in the portion of the preview of the print pattern to converted image data in a rectangular coordinate system.

5. The method of claim 4 wherein determining a representative sensor pixel value includes decimating the converted image data.

4. The method of claim 3, wherein said converting comprises:  
for each pixel in the user selected area, the steps of:  
performing a look up to obtain conversion data including the polar coordinate data and the polar offset data associated with respective pixel coordinates;  
retrieving at least one sample of stored captured image data;  
and  
interpolating each retrieved sample with weighting based on the looked up offset data to obtain a respective pixel value in rectangular coordinate system.

6. A system for generating a display of a print pattern on a conical platen surface, an image of the print pattern being captured in a scan made up of a series of radial scan line images along an arcuate path, comprising:  
a non-planar prism;  
a scanning imaging system optically coupled to the non-planar prism for capturing the image data in a polar coordinate system; and  
a display processing system coupled to the scanning imaging system wherein the display processing system comprises a preview generation module for generating a preview display of the captured print image.

7. The system of claim 6 wherein the display processing system further comprises a high resolution display processing module for generating a high resolution display of an area of the preview display selected by a system user.

8. The system of claim 7 further comprising an image conversion system.

9. The system of claim 6 wherein the non-planar prism is a conical prism.

10. The system of claim 6 wherein the scanning and capturing system is coupled to the display processing system via a data network.